

# Needle injuries in dialysis clinics

Malgorzata Liber<sup>1</sup>, Michal Kisiel<sup>1</sup>, Maria Teresa Parisotto<sup>2</sup>

<sup>1</sup>Fresenius NephroCare, Nursing Care Coordination, Poznan – Poland

<sup>2</sup>Fresenius Medical Care, Care Value Management, Bad Homburg - Germany

## Introduction

Every year, more than 1 million health care professionals in the European Union are exposed to lethal illnesses such as HIV and hepatitis caused by needle injuries.

This mainly happens during injection, insertion of intravenous cannula, blood collection, and removal of needle from syringe or insertion of needle into containers [2.]

## Objectives

1. To determine who is most exposed to sharp tools?
2. To determine which activities expose the nurse to needle injury?
3. To determine whether the use of high-capacity mobile containers leads to a reduced number of accidents?

## Methods

Evaluation of occupational exposure of staff working in dialysis clinics was performed from 2014 to 2016.

Data were analysed by the circumstance of the accident: staff, area, type of activity, sharps tools, containers characteristic.

## Results

Accidents occurred in 42 of 73 clinics.

Number of accidents/year: 44/2014, 41/2015, 29/2016.

94.7% of accidents occurred in the dialysis room, 2.6% in medical examination room and 2.6% in the technical area . 89.1% of all incidents concerned the nurses (Figure 1). The nurses were exposed to needle stick injuries while performing dialysis disconnections 46.5%, drug administration 13.2%, disposing sharps 13.2%, sampling 6.1%, nursing 2.7%, dialysis connections 1.8%, and handling equipment 0.9%. Nurses' injuries mainly caused by cannulas 56.1% and injection needles 23.7% (Figure 3). Nurses were mainly exposed to splashes during opening of dialysis system or because of system leakage 4.4% (Figure 2). Physicians injured themselves with scalpels while removing stitches 4.5%, cleaning staff while waste disposing 3.6% and patient care 0.9%, technicians injured themselves with a screwdriver 1.8%.

In the clinics, two types of containers for sharp tool were used. Year/capacity containers: 2014 /2 litre, 2015 /2 litre and 5 litre, 2016/5litre. Big containers are placed on trolleys (Figure 3).

## Conclusions

1. Occupational risk exposure of the dialysis staff, especially nurses, was confirmed – 89.1% of all incidents involved nurses.
2. Nurses' injuries and exposure to potentially infectious material mainly occurred during dialysis disconnection 46.5% most often by cannulas 56.1%.
3. The use of mobile containers of higher capacity reduced the number of injuries by 34.1% (as compared to 2014).

## References

1. Przewodnik po rozporządzeniu Ministra Zdrowia z dnia 6 czerwca 2013 r. w sprawie bezpieczeństwa i higieny pracy przy wykonywaniu prac związanych z narażeniem na zranienie ostrymi narzędziami używanymi przy udzielaniu świadczeń zdrowotnych. Polskie Towarzystwo Lekarzy Epidemiologów i Chorób Zakaźnych.
2. Propagowanie wspieranie procesu implementacji dyrektywy 2010/32/UE w sprawie zapobiegania zranieniom ostrymi narzędziami w sektorze szpitali i opieki zdrowotnej Raport końcowy / 30 września 2013 r.

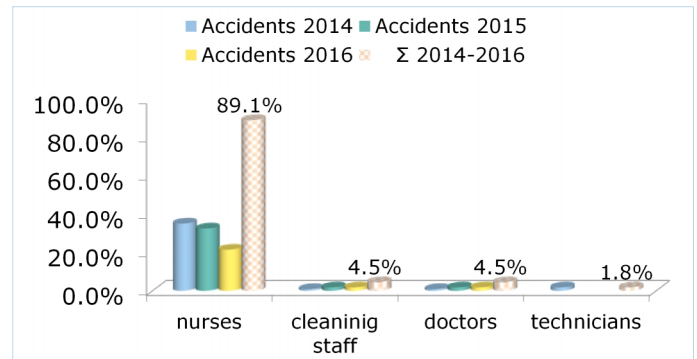


Figure 1. Workers affected by accidents 2014-2016

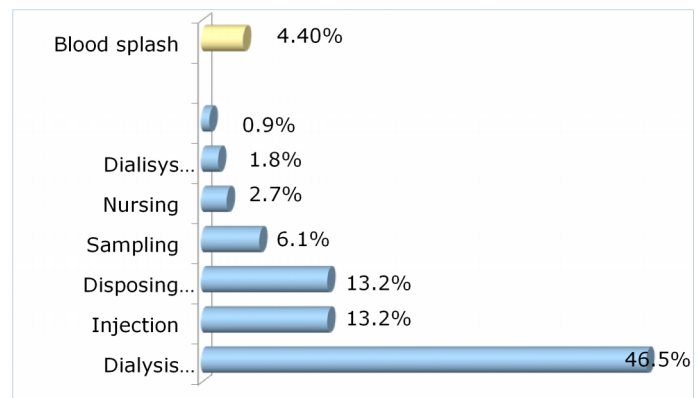


Figure 2. Nursing activities and accidents involving sharp tools and splash.

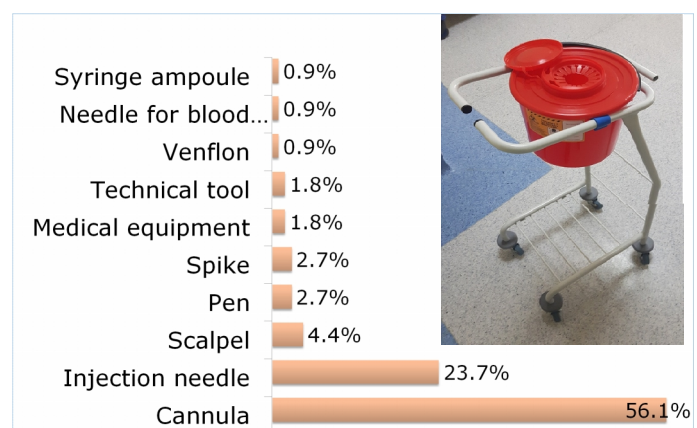


Figure 3. Sharp tools that hurt workers , container 5 litre